Tempe Fire Department Policies and Procedures
High Rise
209.01
Rev 2-20-87

BASIC OPERATIONAL APPROACH

This plan is intended to adapt normal standard operating procedures and systems to high-rise operations.

High-rise fires present some particular problems in firefighting operations. Most of these are related to the difficulties of access, the complexities of construction, and the number of occupants in these structures. By virtue of these considerations, any situation in a high-rise structure is more complicated than the same situations occurring in a low-rise environment.

An aggressive coordinated attack has proven to be the most effective tactical option in the majority of high-rise fire situations.

The construction of most high-rise buildings effectively shields the interior from the outside. Even with "nothing showing," an assumption of a concealed fire should be made by Command.

The initial arriving units should be concerned with:

1. Identifying the fire floor.
2. Providing an attack on the fire floor with at least TWO (2) companies.
3. Providing for the life safety of persons in immediate danger.
4. Providing water supply for the initial attack.
5. Establishing Lobby Control.
6. Making a size-up of conditions on the fire floor and the floor above.

In most high-rise situations the need for establishing Command "in the street" is secondary to the urgency of getting an officer and crew up to the fire area. A single company, arriving alone, should prepare to go up into the building with basic equipment. The officer of that company should give his arrival report, announce his actions, and PASS COMMAND to the next arriving officer.

When several units arrive simultaneously, the officer of the first arriving company should assume Command. At least one officer must go up to lead the attack.

If arriving simultaneously with a chief officer, the first-in company officer will give his arrival report, announce his actions, and PASS COMMAND to the chief officer by radio.

The initial attack should consist of at least two (2) companies (preferably one engine and one ladder). The officer leading the attack will be responsible for selecting the method of ascent to the reported fire area depending on conditions.

As soon as the fire floor is reached and identified, the officer will give Command a report of conditions on the fire floor, his immediate needs, and a confirmation of the actual fire floor number. (Note: Be aware that due to superstition, some buildings may not have a numbered 13th floor.) Command should then establish the fire floor as a sector (Floor 16 = Sector 16).

When a building has multiple standpipes, the Fire Floor Sector Officer must advise Command where he needs

water, and Command will confirm the availability of pumped water to that particular riser.

At least one, but preferably two, members should be left in the lobby to gain control of all elevators using emergency recall or manual override. They will inform the assigned Lobby Control Officer, on his arrival, of the method of ascent used by the attack companies.

The initial attack companies will go upstairs with only SCBAs, hose packs, basic forcible entry tools, and an extinguisher. Other equipment will be pooled in the lobby until its need becomes apparent or a Resource Sector is established.

Command Priorities

Once the attack companies have started up to the fire floor, Command must be concerned with the following:

1. Provide a water supply for the attack. Assign engineers and pumpers, as needed, to provide water to dry standpipes. When there are multiple systems, lines must be provided for each one in the fire area. (If the building has a working wet system, this becomes a lower priority.)

2. Establish Lobby Control. At least two members are needed for Lobby Control to take control of elevators, alarm systems, and stairways. Additional personnel may be required to assist as time permits. (See LOBBY CONTROL.)

3. Assign a company to survey the outside of the building on all sides. Many times conditions on one side of a high-rise building are not representative of conditions on another side. The outside survey should include a careful visual check for endangered persons, smoke conditions, and fire spread.

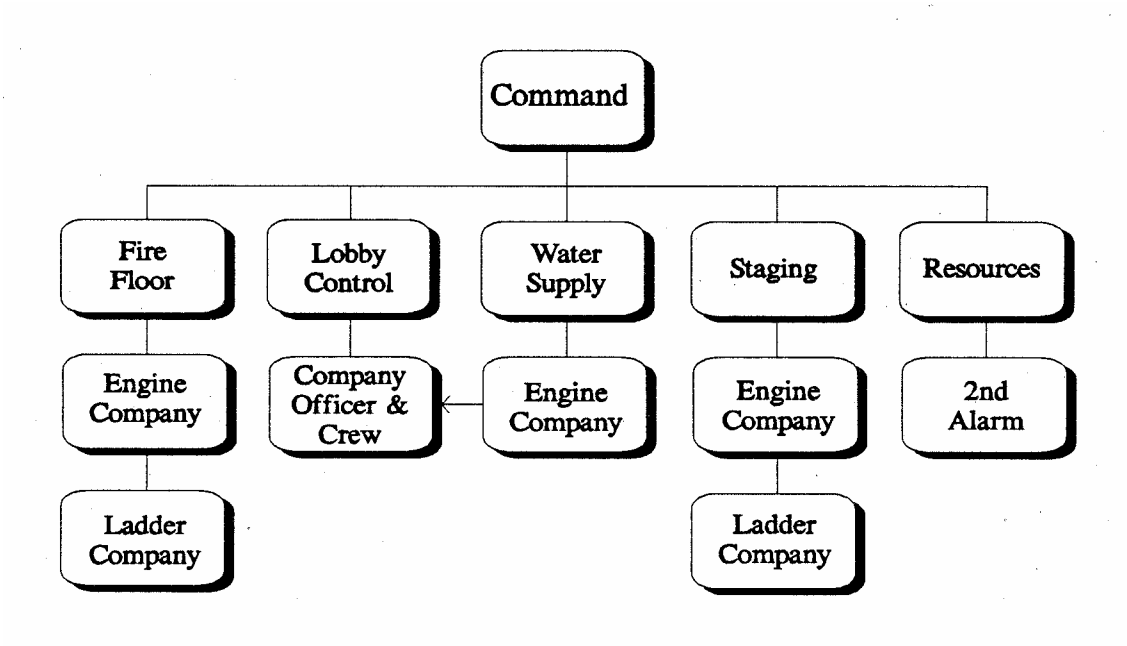
4. Assign a company to check the floor above the fire floor. Command must get a report on conditions above the fire as quickly as possible.

5. Call for additional resources. Any type of working situation will quickly utilize an entire first alarm assignment. Call for additional alarms as soon as the need is identified.

6. Begin to establish supporting systems. A fire which is not controlled by the initial attack companies will require a larger attack force and a supporting structure including Staging, Resource Sector, increased emphasis on Lobby Control, and necessary additional elements. Begin to build this structure as soon as possible.

7. Establish sectors early. Early assignment of sectors will allow for a more controlled, coordinated, and safer operation.

Initial Attack



ORGANIZATION FOR WORKING FIRES

A working fire in a high-rise may not be controlled by the initial attack companies. In such a case, the operation becomes prolonged and escalates into a major operation. A strong organization is required to support a firefighting force above ground. The principle objective of this supporting organization is to provide the firefighting sectors with manpower and equipment to operate effectively and to assist in solving some of the major problems involved in high-rise structures.

Command must start to identify and build this organization as quickly as possible after assigning units needed for Initial Attack. These elements can be expanded upon as the availability of personnel increases.

The major elements which need to be considered in most working high-rise situations are:

. Fire Floor Sector.
. Lobby Control.
. Floor above (extension).
. Resource Sector (emphasis on SCBA air supply).
. Staging.
. Floor below (property conservation).
. Personnel relief and rehabilitation.

LOBBY CONTROL SECTOR

Lobby Control should be established by Command at high-rise fires and similar situations where control of access to the interior of a complex building is necessary.

Generally, the captain and at least one additional member from the engine assigned to supply standpipe/sprinkler systems will be utilized to establish Lobby Control. Additional personnel, as required, should be assigned as quickly as possible and additional resources may be needed in major situations.

Lobby Control must identify and report to Command the point of access that will be used by anyone entering the

building. Lobby must control all points of access to the building and only allow personnel authorized by Command to enter. All personnel entering the building MUST report to Lobby before reporting to any other sector or assignment. Civilian personnel entering the building must be accompanied by a firefighter, and when available, a portable radio.

The primary responsibilities assigned to the Lobby Control Sector are:

Initial

1. Obtain, identify and distribute keys from lock box.
2. Keys for elevator must remain in Lobby.
3. Take control of all elevators and return to ground using emergency control feature.
4. Determine safety of elevators for use by attack companies and/or for evacuation of occupants. Assign operators to cars which will be used, and establish communications if possible.
5. Control access to stairways.
6. Identify stairways to be used by firefighting forces.
7. Direct occupants leaving stairways to safe location and away from Lobby, and prevent re-entry.
8. Record names of personnel going up into building.
9. Keep crew with an officer as much as possible.
10. Keep individual personnel, not attached to a company, in the Lobby until they can report to their company or be reassigned to another company.

Working Fire

1. Take control of alarm systems. Shutting off alarm system when it is determined that the building or area is evacuated, will allow for better radio communication.
2. Assign personnel to establish liaison with building maintenance personnel.
3. Communicate with Resource and Staging Sectors to coordinate equipment and manpower needs.
4. Stockpile equipment in Lobby for transportation to Resource Sector. Control dispatch of manpower and equipment to Resource Sector and maintain log. Companies assigned from Staging should be instructed to unload needed equipment at Lobby.
5. Establish stairway support if needed. When elevators are inoperative or unsafe, equipment must be carried up the stairways. Assign personnel to every other floor landing (every floor if sufficient personnel is available) to relay equipment up the stairs. These personnel should have protective equipment available, but work in fatigues.

RESOURCE SECTOR

Command is responsible for identifying the need for establishment of a Resource Sector and assigning its implementation. This requires the assignment of a sector commander and sufficient manpower to operate the Resource Sector, as outlined below.

The Resource Sector is established as a supply pool to provide a standby supply of manpower and equipment for operating sectors. The Resources Sector provides an identifiable location, at which available supplies are assembled to provide immediate support when needed. This requires anticipation of equipment and/or manpower which will be needed by operating companies.

The Resource Sector should be established in close proximity to the scene of operations, but outside of the defined fireground perimeter in a safe location. (For high-rise operations, the Resource Sector is normally established TWO FLOORS below the fire floor.) Command may identify the location of the Resource Sector or direct the assigned sector commander to find and announce an appropriate location.

The radio identification for this sector will be "Resource". Communications will involve interaction with Command and Staging to provide supplies to the Resource Sector. (In a high-rise incident Lobby Control will also be involved.) Operating sectors may obtain equipment by direct communication with "Resource". Manpower requests will be directed to Command.

The Resource Sector Commander should attempt to identify the types of equipment and supplies which will be required according to the situation and provide for their delivery to the Resource Sector. This often involves moving tools and equipment from apparatus in Staging to the Resource Sector. (In a high-rise, this would also involve Lobby Control.) Typical supplies involved would include spare air bottles, hose, nozzles, hand tools, blowers, lights, and salvage equipment.

Air bottles play a particularly significant role in initial fire attack capability in a high-rise building. All members should bring as many spare bottles as possible and leave them at Lobby Control.

In situations which are manpower intensive, companies may be ordered to abandon apparatus in Staging and report to the Resource Sector with appropriate equipment. Companies in the Resource Sector should be kept intact and assigned as a unit. Command will call Resource to assign available companies to operating sectors. Companies may be returned to the Resource Sector to standby for further assignment when released from operating sectors.

The Resource Sector will maintain an inventory of equipment, supplies, and companies available at all times. A minimum of one company for every company on the fire floor should be maintained in Resource. The sector commander will assign sufficient manpower to provide for adequate support within the sector including necessary movement of equipment. A log will be maintained of all assignments of companies to other sectors, including time of assignment. Equipment areas in the resource pool should be grouped by type, denoting equipment that is ready and equipment that is spent.

SPECIAL CONSIDERATIONS

Stairways

In structuring firefighting operations, at least one stairway should be kept clear to provide access to, or escape from, floors above the fire. This will require communicating which stair is being used for firefighting access and/or ventilation, and which is being kept clear for access above.

Almost all stairways have vent hatches or roof access at the top to allow venting for trapped smoke. A blower introducing fresh air at the bottom will usually help to clear smoke trapped in the shaft or keep smoke from entering. Avoid intentionally venting the fire into a stairway.

Air Handling Systems

Some air handling systems, particularly in sprinklered buildings, are designed for smoke removal and fresh air supply. Unless the system is designed for this purpose, it should be shut down until the fire is stabilized and the method of smoke removal is decided.

Lobby Control is responsible for establishing contact with building maintenance personnel to assist with these systems. The controls may be at a building control system in the lobby or in an equipment area.

Alarm and Communications Systems

Fire Alarm and/or one or two-way voice communications systems are required for all high-rise buildings. These provide a method of sounding alarms or making announcements on individual floors selectively or to the whole building. Lobby Control will have the responsibility for manning theses systems at the main panel. (Alarm systems will not be shut off until Command has been advised of an "all clear".)

The construction of most high-rise buildings will tend to shield radio transmissions, particularly between Alarm headquarters and portables inside the structure. A unit in the street usually will be able to communicate with units inside and may have to relay messages to Alarm.

Internal communications systems in some buildings may be used in addition to normal radio communications; Command will need to establish communications with the system control panel.

Evacuation Officer

In some situations a significant number of occupants may need to be evacuated, or otherwise directed. It may be advantageous to separate this area of responsibility from firefighting and assign companies under an Evacuation Officer to accomplish this function and thus reduce Command's span of control.

Evacuation Policy

The evacuation routes available to occupants of a high-rise building are normally limited to two stairways. The stairways are also the prime access route for firefighting forces to make an attack.

Occupants in the immediate fire area should be evacuated as quickly as possible to a safe area such as the THIRD FLOOR BELOW the fire, another wing, etc. Further evacuation should be predicated on risk to the occupants, since premature evacuation often hinders fire control efforts and adds to general confusion at the scene. The determination of risk and the decision to evacuate should be made by personnel on the floor.

All stairways should be accounted for in search and rescue operations with special emphasis on handicapped people who may have sought refuge there.

Subsequent evacuations should be managed to avoid interference with operations as much as possible.

Command Officers

A Command Officer will be assigned to the firefighting level of a high-rise fire as quickly as possible. The first Command Officer should establish an effective Command Post position "in the street" that provides maximum visibility of the building and surrounding area. As soon as a second chief arrives, one should be assigned to the fire floor sector to command the attack.

Chief officers should relieve company officers as early as possible in each sector and each fire area.

SAFETY PROCEDURES

High-Rise Safety

Fire personnel conducting operations in high-rise buildings are faced with many non-typical hazards due to the design, elevation, limited access/egress, etc., inherent in these buildings. For this reason when operating in a high-rise building, it is to be considered a high hazard area.

Stairways/Elevators

If a working fire is suspected in a high-rise building, the following procedures shall be adhered to:

1. Always utilize stairways to aloft if possible.

2. Remote elevators which exit to an open walkway on each floor, may be used when they are obviously not near the fire area. (An example of this would be the ASU Cholla Apartments at Terrace and Rural Roads.)

3. Elevators with firemen service feature, may be used to go aloft provided the following measures have been taken:

   A. The elevator shaft must be checked to insure that heat/fire have not damaged the hoist mechanism, etc. This can be done by checking the space between the door frame and the elevator car and shining a light up the shaft. If smoke, fire, or water are visible in the shaft, DO NOT USE THE ELEVATOR.

   B. The following procedures will be utilized when using elevators with firemen service feature:

      (1) Engage the firemen feature.

      (2) Take elevator to the floor two floors below the suspected fire floor.

      (3) Be prepared to close the elevator door immediately usually by removing finger from the door control button if fire or smoke are visible on the floor.

      (4) Have a dry chemical fire extinguisher in the elevator in event of an emergency, for the personal safety of the operator and passengers.

ELEVATORS WILL NOT BE USED WITHOUT APPROVAL OR DIRECTION FROM COMMAND.

When operating at high-rise building where the potential hazards of falling glass and debris exits, a fireground perimeter shall be established approximately 200' from the building and shall be observed by all fire personnel as a high hazard area. (If conditions require the breaking of glass, Command should be notified prior to this action.)

Pumpers supplying water shall utilize hydrants outside the perimeter area if possible.

Command and staff support personnel shall remain outside the perimeter area unless entering the area to assist with interior operations.

(See Figure 1, High-Rise Perimeter illustration.)

To insure accountability of personnel operating in high-rise buildings, the Lobby Control Officer and the Resource Sector Officer respectively shall record the names of all crew members going aloft or operating on upper floors.

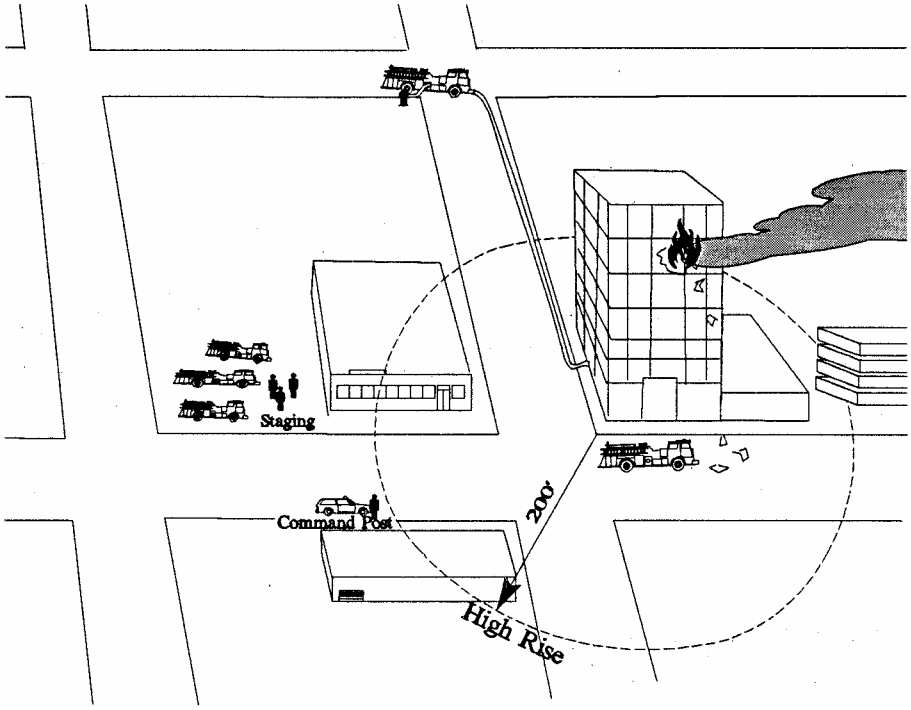


Figure 1
High Rise Perimeter